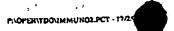
- 43 -





## CLAIMS:

An immunogenic complex comprising a charged organic carrier and a charged antigen, 1. which organic carrier and antigen/are electrostatically associated.

The immunogenic complex according to claim 1 wherein said carrier is negatively charged and said antigen is positively charged.

The immunogenic complex according to claim 2 wherein said antigen is a protein or 3. derivative or equivalent thereof.

The immunogenic complex according to claim 2 wherein said carrier is an adjuvant or derivative or equivalent thereof.

The immunogenic complex according/to claim 2 wherein said antigen is a protein or derivative or equivalent thereof and said carrier is an adjuvant or derivative or equivalent thereof.

- The immunogenic complex according to claim 5 wherein said negatively charged 6. adjuvant is a naturally negatively charged adjuvant which has been modified to increase the degree of its negative charge.
- The immunogenic complex according to claim 5 wherein said positively charged 7. protein is a naturally positively charged protein which has been modified to increase the degree of its positive charge.
- The immunogenic complex according to claim 5 wherein said negatively charged 8. adjuvant is a naturally/negatively charged adjuvant which has been modified to increase the degree of/its negative charge and said positively charged protein is a naturally positively charged protein which has been modified to increase the degree of its positive charge.

- 44 -

Claim 5

The immunogenic complex according to any one of claims 5-8 wherein said adjuvant 9. comprises a saponin.

The immunogenic complex according to any one of claims 5,8 wherein said adjuvant is a saponin complex.

The immunogenic complex according to claim 10 wherein said saponin complex is 11. ISCOMATRIX™.

- The immunogenic complex according to any one of claims 5-8 wherein said adjuvant 12. comprises a phospholigid.
- The immunogenic complex according to claim 12 wherein said phospholipid is a 13. phosphoglyceride.
- The immunogenic complex according to claim 13 wherein the phosphoglyceride is 14. selected from the group consisting of phosphatidyl inositol, phosphatidyl glycerol, phosphatidic acid/and cardiolipin.
- The immunogeric complex according to claim 12 wherein said phospholipid is lipid 15. Α.
- The immunogenic complex according to claim 15 wherein the lipid A is selected from 16. the group consisting of diphosphoryl lipid A such as OM174 and monophosphoryl lipid A.

The immunogenic complex according to any one of claims 1-16 wherein said complex 17. induces a cytotoxic T-lymphocyte response.

0

Properationimmunos.PCT - 17/2/00



- 18. A vaccine composition comprising as the active component a charged organic carrier and a charged antigen, which carrier and antigen are electrostatically associated, together with one or more pharmacoutically acceptable carriers and/or diluents.
  - The vaccine composition according to claim 18 wherein said carrier is negatively charged and said antigen is positively charged.
- 20. The vaccine composition according to claim 19 wherein said antigen is a protein or derivative or equivalent thereof.
- 21. The vaccine composition according to claim 19 wherein said carrier is an adjuvant or derivative or equivalent thereof.
- 22. The vaccine composition according to claim 19 wherein said antigen is a protein or derivative or equivalent thereof and said carrier is an adjuvant or derivative or equivalent thereof.
- 23. The vaccine composition according to claim 22 wherein said negatively charged adjuvant is a naturally negatively charged adjuvant which has been modified to increase the degree of its negative charge.
- 24. The vaccine composition according to claim 22 wherein said positively charged protein is a naturally positively charged protein which has been modified to increase the degree of its positive charge.
- 25. The vaccine composition according to claim 22 wherein said negatively charged adjuvant is a naturally negatively charged adjuvant which has been modified to increase the degree of its negative charge and said positively charged protein is a naturally positively charged protein which has been modified to increase the degree of its positive charge.

The vaccine composition according to any one of claims 22-25 wherein said adjuvant 26. comprises a saponin. The immunogenic complex according to any one of claims 22-25 wherein said 27. adjuvant is a saponin complex. The vaccine composition according to claim 27 wherein said saponin complex is 28. ISCOMATRIX™. Claim 22 The vaccine composition according to any one of claims 22 25 wherein said adjuvant 29. comprises a phospholipid. The vaccine composition according to claim 29 wherein said phospholipid is a 30. phosphoglyceride. The vaccine composition according to claim 30 wherein the phosphoglyceride is 31. selected from the group consisting of phosphatidyl inositol, phosphatidyl glycerol, phosphatidic acid and cardiolipin. The vaccine composition according to claim 29 wherein said phospholipid is lipid A. 32. The vaccine composition according to claim 32 wherein the lipid A is selected from 33. the group consisting of diphosphoryl lipid A such as OM174 and monophosphoryl lipid A. The vaccine composition according to any one of claims 18-33 wherein said 34. composition induces a cytotoxic T-lymphocyte response. A method of eliciting, inducing or otherwise facilitating, in a mammal, an immune 35. response to an antigen said method comprising administering to said mammal an effective amount of an inmunogenic complex according to any one of claims 1-12-

0

- 36. A method of eliciting, inducing or otherwise facilitating, in a mammal, an immune response to an antigen said method comprising administering to said mammal an effective amount of a vaccine composition according to any one of claims 18-34.
- 37. The method according to claim 17-or 36 wherein said immune response comprises a cytotoxic T-lymphocyte response.
  - 38. A method of treating a disease condition in a mammal said method comprising administering to said mammal an effective amount of an immunogenic complex according to any one of claims 1-17 wherein administering said complex elicits, induces or otherwise facilitates an immune response which inhibits, halts, delays or prevents the onset or progression of said disease condition.
  - A method of treating a disease condition in a mammal said method comprising administering to said mammal an effective amount of a vaccine composition according to any one of claims 18-34 wherein administering said composition elicits, induces or otherwise facilitates an immune response which inhibits, halts, delays or prevents the onset or progression of the disease condition.
  - 40. The method according to claim 38 or 39 wherein said immune response comprises a cytotoxic T-lymphocyte response.
- 41. The method according to any one of claims 38 41 wherein said treatment is therapeutic or prophylactic.
- 42. The method according to any one of claims 38-41 wherein said disease condition results from a microbial infection or a cancer.
  - 43. The method according to claim 43 wherein said microbial infection is HIV, Hepatitis B, Hepatitis C tuberculosis or a parasitic condition and said cancer is melanoma, prostate cancer or breast cancer.

a

BCA BA:

- 44. Use of an immunogenic complex according to any one of claims 1-17 in the manufacture of a medicament for inhibiting, halting, delaying or preventing the onset or progression of a disease condition.
- 45. Use of a vaccine composition according to any one of claims 18-34 in the manufacture of a medicament for inhibiting, halting, delaying or preventing the onset or progression of a disease condition.
- 46. Use according to claim 44 or 45 wherein said disease condition results from a microbial infection or a cancer.
- 47. Use according to claim 46 wherein said microbial infection is HIV, Hepatitis B, Hepatitis C, tuberculosis or a parasitic infection and said cancer is melanoma, prostate cancer or breast cancer.
- 48. An agent for use in inhibiting, halting, delaying or preventing the onset or progression of a disease condition wherein said agent comprises an immunogenic complex according to any one of claims 1-17.
- 49. An agent for use in inhibiting, halting, delaying or preventing the onset or progression of a disease condition wherein said agent comprises a vaccine composition according to any one of claims 18-34.
- 50. An agent according to claim 48 or 49 wherein said disease condition results from a microbial infection or a cancer.
- 51. An agent according to claim 50 wherein said microbial infection is HIV, Hepatitis B, Hepatitis C, tuberculosis or a parasitic infection and said cancer is melanoma, prostate cancer or breast cancer.

add ai

WV89: 51: 0 -11-2